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RET basic ETS-D7 Solution

/// Data Sheet

More functions, more flexibility – wireless and safe

The RET basic ETS-D7 Solution expands the trusted RCT basic with additional functions for wireless temperature and pH measurement. The system combines precise measurement technology with enhanced safety and maximum flexibility in everyday laboratory work.

A pH electrode can be connected to the ETS-D7 via a BNC connector. The pH value is displayed directly on the ETS-D7 screen. Additionally, the pH value can also be displayed on the RET basic screen.
If required, the ETS-D7 can also be used without the RET basic as a standalone pH meter or temperature measuring device.

Another advantage of wireless sensor technology:
No cables on the temperature sensor – damaged or burnt sensor cables are a thing of the past.

Increased safety through dual temperature measurement
In combination with the wired temperature sensor PT 1000.60, which is also included in the scope of delivery, two temperatures can be measured simultaneously:
-PT 1000.60 (wired): Monitoring and limiting the temperature of a heat transfer medium, e.g. synthesis block, oil, water or sand bath
-ETS-D7: Temperature control directly within the reaction medium

This configuration enhances the safety of the experiment, particularly in the event of glass breakage.
The RET basic automatically displays both temperatures in parallel on the screen.

Complete solution including mounting hardware
To ensure safe and flexible positioning of the wireless sensor, the complete mounting hardware is included in the scope of delivery (stand, mounting rod and boss head clamp).

Scope of delivery
•RET basic
•IKAFLON® 30 Magnetic stirring bar
•IKAFLON® 40 Magnetic stirring bar
•ETS-D7 Wireless Sensor
•H 16 V Support rod
•PT 1000.60 Temperature sensor, stainless steel

•H 44 Boss head clamp
•H 38 Holding rod
•Screw driver (use for safety circuit)

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Technical Data

Number of stirring positions	1
Stirring quantity max. per stirring position (H2O) [l]	20
Maximum load [kg]	25
Motor rating output [W]	9
Motor principle	Brushless DC
Direction of rotation	right
Speed display set-value	LED
Speed display actual-value	LED
Speed adjustment	Control knob (Rotating / Pressing)
Speed range [rpm]	50 - 1700
Setting accuracy speed [rpm]	10
Stirring bar length [mm]	20 - 80
Self-heating of the set-up plate by max. stirring (RT:22°C/duration:1h) [K]	+15
Heat output [W]	800
Temperature display set-value	LED
Temperature display actual-value	LED
Temperature unit	°C
Heating temperature range [°C]	Room temp. + device self heating - 340
Heat control	Control knob (Rotating / Pressing)
Display resolution [K]	0.1
Temperature setting range [°C]	0 - 340
Temperature setting resolution of heating plate [K]	1
Connection for ext. temperature sensor	PT1000, ETS-D5, ETS-D7, PT wireless
Temperature setting resolution of medium [K]	0.1
Operating temperature min. (with external cooling) [°C]	-20
Adjustable safety circuit [°C]	50 - 360
Set-up plate material	Aluminium alloy
Set-up plate dimensions [mm]	Ø 135
Automatic reverse rotation	optional (with IKA HUB)
Intermittent mode	optional (with IKA HUB)
Viscosity trend measurement	optional (with IKA HUB)
Break detection stirring bar	optional (with IKA HUB)
Timer	yes
Timer display	LED
Time setting min. [s]	1
Time setting max. [min]	5999
pH measurement	optional (with ETS-D7, PT wireless)
Programs	optional (with IKA HUB)
Sensor in medium detection	yes
Temperature measure range PT1000 [°C]	-20 - 340
PT 1000 deviation;DIN EN 60751 Kl. A [K]	≤ ± (0.15 +0.002xITI)
Speed deviation (no load,nominal voltage, at 1500rpm + 25 °C) [%]	±2
Heating rate (1l H2O in H1500) [K/min]	9
Heat control accuracy of heating plate centre without vessel (at 100°C) [K]	±5
Heat control accuracy with ext. PT1000 (500ml H2O in 600ml beaker,40mm stirring bar,600rpm,50°C) [K]	±0.5
Heat control accuracy with ETS-D5 (500ml H2O in 600ml beaker,40mm stirring bar,600rpm,50°C) [K]	±0.5
Heat control accuracy with ETS-D7 (500ml H2O in 600ml beaker, 40mm stirring bar, 600rpm, 50°C) [K]	±0.2
Heat control accuracy with PT wireless (500ml H2O in 600ml beaker, 40mm stirring bar, 600rpm, 50°C) [K]	±0.2

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Dimensions (W x H x D) [mm]	160 x 100 x 200
Weight [kg]	2.3
Permissible ambient temperature [°C]	5 - 40
Permissible relative humidity [%]	80
Protection class according to DIN EN 60529	IP 54
RS 232 interface	yes
USB interface	USB-C
WPAN interface	yes
WiFi Interface	yes
Ethernet interface	yes
Voltage [V]	220 - 230
Frequency [Hz]	50/60
Power input [W]	820
Power input standby [W]	0.45